

## ABSTRACT

A method and apparatus are disclosed for using photoplethysmography to obtain physiological parameter information related to respiration or the autonomic nervous system. In one implementation, the process involves obtaining (602) a pleth, filtering (604) the pleth to remove unwanted components, identifying (606) a signal component of interest based on the filtered signal, monitoring (608) blood pressure changes, monitoring (610) heart rate, and performing (612) an analysis of the blood pressure signal to the heart rate signal to identify a phase relationship associated with the component of interest. Based on this phase relationship, the component of interest may be identified (614) as relating to the respiration or Mayer Wave. If it is related to the respiration wave (616), a respiratory parameter such as breathing rate may be determined (620). Otherwise, a Mayer Wave analysis (618) may be performed to obtain parameter information related to the autonomic nervous system.

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